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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,466	06/28/2001	Ryoko Kitano	Q65163	3305

7590

07/22/2003

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EXAMINER

KILKENNY, TODD J

ART UNIT	PAPER NUMBER
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1733

8

DATE MAILED: 07/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/892,466	Applicant(s) KITANO ET AL.	
	Examiner Todd J. Kilkenney	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 4, 7 and 10 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bennett et al (US 6,168,682).

Bennett et al teach a method of manufacturing an optical recording medium comprising first and second disk members bonded together with a pressure sensitive adhesive layer. The method as disclosed by Bennett et al includes at least two steps. In step 1, the pressure sensitive adhesive layer is attached to the inner surface of the first member and laminated thereto. The adhesive layer is suggested to be fed via a

release liner to a lamination roll under an angle, preferably at least 20° in order to facilitate expelling of air out of the contact area between the inner surface of the first member and the pressure-sensitive adhesive layer. In step 2, the second member is adhered with its inner surface onto an exposed surface of the pressure sensitive adhesive (i.e. after the release liner has been removed) (Col. 9, line 40 – Col. 10, line 46). Subsequent to attaching the inner surface of the second member to the exposed surface of the pressure sensitive adhesive layer, the second member is further adhered to the adhesive layer, for example by passing a rubber roll over the exposed surface of the second member to provide sufficient lamination pressure (Col. 11, lines 38 – 59). Bennett et al recognize that during steps 1 and/or 2 bubbles may form at the interfaces between the first and/or second inner surfaces. To alleviate this problem, Bennett et al suggest transferring the bonded assemblies obtained in step 2 to a hydrostatic pressure chamber where they are subjected to uniform, hydrostatic gaseous pressure, in particular air pressure thereby completely removing the bubbles formed at the interfaces during bonding steps 1 and 2 (Col. 13, lines 34 – 49).

As to applicant's newly added claim language defining the high pressure atmosphere to expose the disk-shaped substrate to a second pressure level greater than the previously applied lamination pressure that adheres the second member, it is noted Bennett et al disclose the hydrostatic pressure chamber to provide pressure of between 10 and 40 bar (Col. 13, lines 48 – 49). Furthermore, as disclosed in comparative example 1, Bennett et al suggest the lamination pressure in adhering the second disk to the adhesive layer be provided by using a rubber lamination roller with a

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mass of 1 kg with hand pressure (Col. 24, lines 56 – 63). It is inherent that the lamination pressure provided by a 1 kg rubber roll applied with hand pressure would be significantly less than the 40 bar (580 lbs per in²) suggested as the hydrostatic pressure.

In any event, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ a greater pressure in the final pressing of Bennett et al in comparison to the laminating pressure, as one of ordinary skill in the art would readily appreciate in achieving the uniform un-warped two disk optical recording medium as desired by Bennett et al to first laminate with a small pressure (i.e. just enough to adhere the two disk substrates together) and then subject the adhered two disk substrates to a pressure chamber providing a high uniform pressure to ensure adequate strength in the connection between the two disk substrates by removing gas bubbles and sealing the edges.

As to claim 10, Bennett et al suggest that a bubble-free optical recording medium is formed after exposing the disk product to the hydrostatic pressure chamber (Col. 13, lines 34 – 49).

4. Claims 3 – 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amo et al (EP 0855703) in view of Bennett et al (US 6,168,682).

Amo et al teach a method of laminating disk substrates wherein referring to Fig 19, the method includes pressing an adhesive sheet comprising an adhesive agent to a lower disk-shaped substrate to bond the adhesive agent to the lower disk-shaped substrate (step 4), placing an upper disk-shaped substrate on the lower disk-shaped

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substrate (step 6) and pressing the upper disk-shaped substrate against the lower disk-shaped substrate to integrally laminate the disk-shaped substrates together (step 7).

Amo et al, however, fail to suggest exposing both disk-shaped substrates to a high-pressure atmosphere after pressing the upper disk-shaped substrate against the lower disk-shaped substrate.

As discussed in the 102(e) rejection above, Bennett et al teach a method of manufacturing an optical recording medium comprising first and second disk members bonded together with a pressure sensitive adhesive layer. Bennett et al teach subjecting the bonded assembly comprising the first and second disk members to a hydrostatic pressure chamber whereby they are subjected to uniform, hydrostatic gaseous pressure, in particular air pressure. Bennett et al teach that this done to completely remove any bubbles formed at the interfaces between the disk members and the interlaying adhesive (Col. 13, lines 34 – 49). Again, as to applicant's newly added claim language defining the hydrostatic pressure chamber to expose the disk-shaped substrate to a second pressure level greater than the previously applied lamination pressure that adheres the second member, it is noted Bennett et al disclose the hydrostatic pressure chamber to provide pressure of between 10 and 40 bar. Furthermore, as disclosed in comparative example 1, Bennett et al suggest the lamination pressure in adhering the second disk to the adhesive layer be provided by using a rubber lamination roller with a mass of 1 kg and hand pressure (Col. 24, lines 56 – 63). One of ordinary skill in the art would have readily appreciated that the lamination

pressure provided by a 1 kg rubber roll applied with hand pressure would be significantly less than the 40 bar (580 lbs per in²) suggested as the hydrostatic pressure.

It therefore would have been obvious to one of ordinary skill in the art at the time of the invention to expose the bonded disk-shaped assemblies of Amo et al to a hydrostatic pressure chamber, as is suggested in manufacturing optical recording medium by Bennett et al in order to provide additional pressurizing to ensure that undesired bubbles at the interface of the adhesive and disk-shaped substrates are completely removed therefrom.

In regard to applicant's claims 5 and 6, Amo et al suggest pressing the upper disk-shaped substrate against the lower disk-shaped substrate from a central portion to an outer portion thereof so that the contact therebetween increases gradually from the central portion to the outer portion (Fig 17; Col. 11, lines 9 – 35).

As to claims 8 and 9, referring to Figure 13, Amo et al teach a holding table ("turntable") that moves the disk shaped substrates through a plurality of stations (X, Y and Z). At the third station (Z), the two disk-shaped substrates are pressed together as earlier stated. As it has been previously established that it would have been obvious to further subject the two disk-shaped substrate to hydrostatic pressure as suggested by Bennett et al, it is further noted that Bennett et al provide motivation (to decrease the disappearance time of bubbles) to initially press the disks together in a gaseous atmosphere (e.g. helium and/or hydrogen), which one of ordinary skill in the art would readily appreciate would require a closed system. Therefore, it would have also been obvious to one of ordinary skill in the art at the time of the invention to provide the

hydrostatic pressure chamber at station Z of Amo et al, so as to adhere the two-disk substrate together and expose to a final pressure at the same station in view of Bennett et al suggesting to adhere in a gaseous atmosphere, which would require a closed system, wherein one of ordinary skill would readily appreciate the pressure chamber would adequately provide and therefore limit the equipment and stations needed, providing a more equipment efficient processing system.

Response to Arguments

5. Applicant's arguments filed 5-15-03 have been fully considered but they are not persuasive. Applicant's argument appears to center on the newly added claim language directed to the pressure applied when pressing the first disk-shaped substrate against the second disk-shaped substrate being less than the pressure exposed to the joined disk-shaped substrate in the high-pressure atmosphere. As addressed in the rejection above, in view of Bennett et al disclosing the hydrostatic pressure chamber preferably provides pressure up to 40 bar and the earlier lamination pressure being applied through hand pressing a 1 kg roller, one of ordinary skill in the art would have readily recognized this hand pressure would be less than 40 bar.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

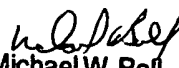
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Todd J. Kilkenny** whose telephone number is **(703) 305-6386**. The examiner can normally be reached on Mon - Fri (9 - 5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

TJK

TJK
July 18, 2003


Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700